Unit 3

Parallel and Perpendicular Lines

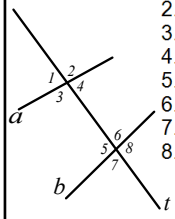
Old paper

I. Parallel lines:

A. Parallel lines: coplanar lines that never intersect.

B. Skew lines: non-coplanar lines that never intersect.

C. Transversal: a line that intersects two or more coplanar lines.

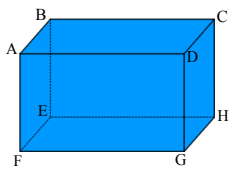


1. <1 and <3 — Linear pair
2. <2 and <3 — Vertical angles
3. <1, <2, <7, <8 — External angles
4. <3, <4, <5, <6 — Internal angles
5. <3 and <5 — Same-side interior angles
6. <4 and <5 — Alternate interior angles
7. <2 and <7 — Alternate exterior angles
8. <2 and <6 — Corresponding angles

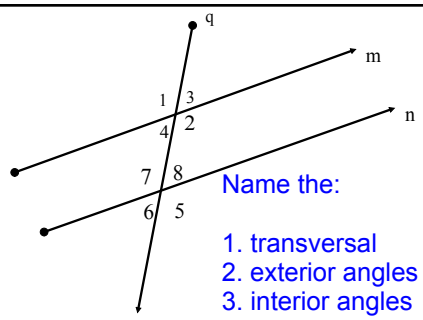
Jul 17-10:41 AM

D) Parallel lines
coplanar lines that never intersect

E) Skew Lines
non-coplanar lines that never intersect



Aug 15-8:57 PM

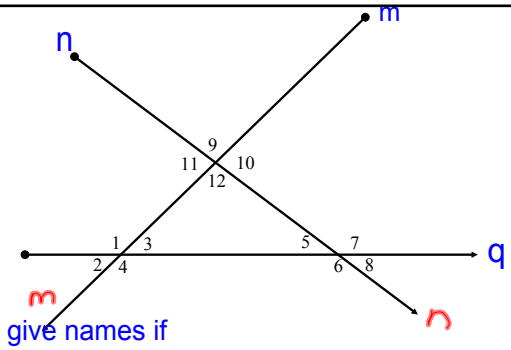


Name the:

1. transversal
2. exterior angles
3. interior angles
4. vertical angles

5. alternate interior
6. alternate exterior
7. consecutive interior
8. corresponding

Oct 8-9:12 AM



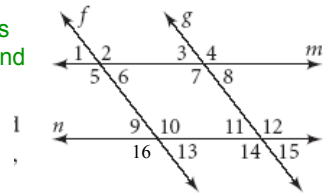
give names if
q is the transversal- 1&4 1&8 3&6 3&5 3&7

n is the transversal 10&5 9&6

Sep 22-7:32 AM

WARM UP

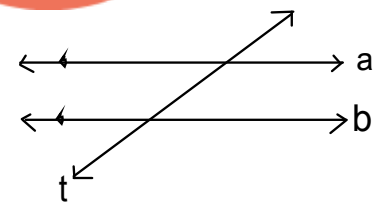
For each pair of angles state the transversal and angle pair name.



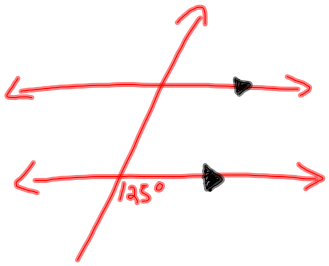
1. <2 and <10
2. <11 and <13
3. <7 and <8
4. <9 and <5
5. <12 and <14
6. <3 and <15
7. <1 and <6
8. <6 and < 11
9. <2 and <4
10. <1 and <16

Oct 8-9:04 AM

Measure all angles formed by a, b and t



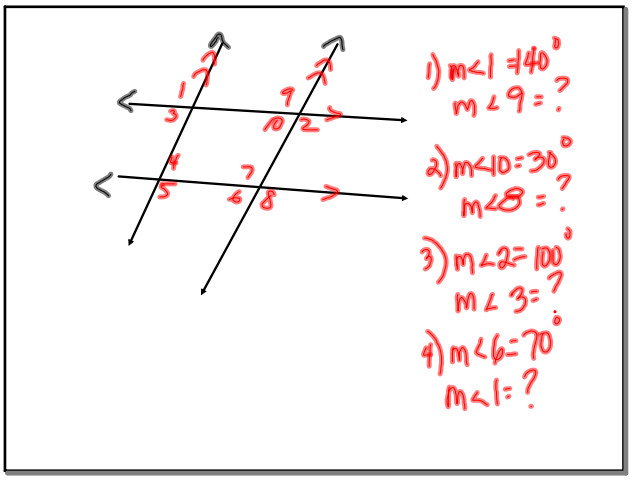
Nov 3-1:29 PM



Feb 25-1:15 PM

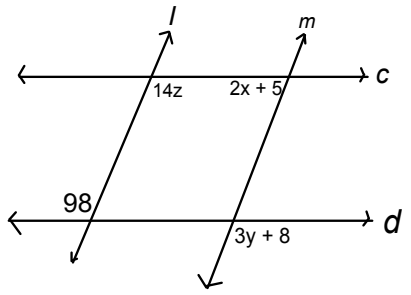
sec 3.2 theorems

Nov 4-12:19 PM

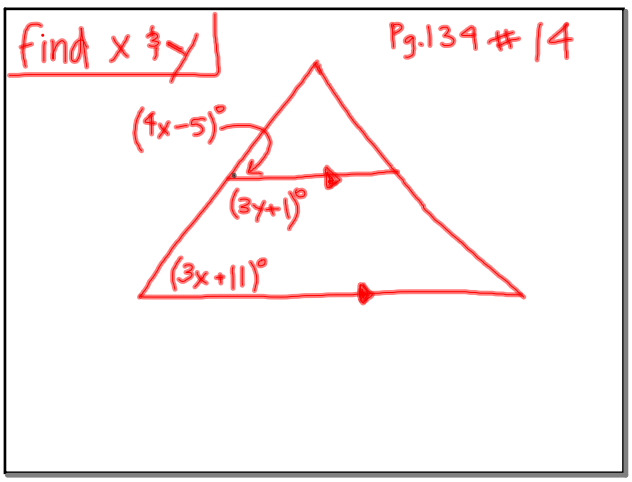


Feb 25-1:12 PM

In the figure, *l*∥*m* and *c*∥*d*. Find the values of x, y and z.



Sep 24-2:17 PM



Sep 23-11:09 AM

Solve the systems

1) x+y=10
x-y = 8

2) x+3y = 19
x - y =-1

3) x - 3y =0
5x- y= -14

4) 2x +3y =-I
3X +5y =-2

Feb 16-10:43 AM

① $x+y=5$
$5x-3y=17$

② $3x-4y=16$
$5x+6y=14$

p134 15-19
38, 39

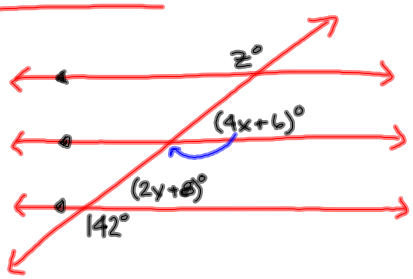
Feb 17-10:02 AM

$x-y=7$
$4x-5y=25$

$2x+3y=17$
$3x+4y=24$

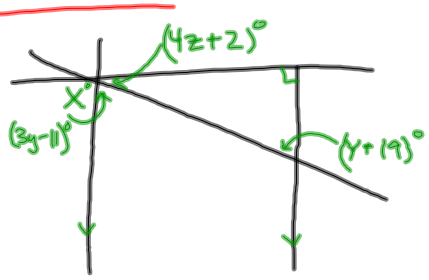
Mar 3-8:47 AM

Pg 134 #38



Sep 26-6:56 AM

Pg 135 #39



Sep 26-7:04 AM

V. Coordinate Geometry

A. slope: ratio of vertical change to horizontal change

B. slope-intercept form: $y = mx + b$

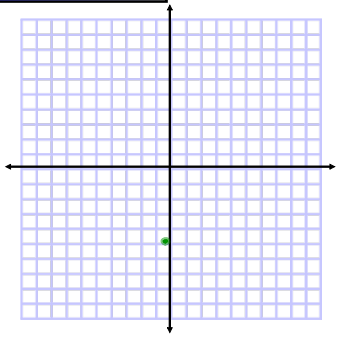
Graph

1. y = -2x + 9

2. 5x - 6y = 30

3. y= 4

4. X = -1



Oct 3-7:57 AM

Slope $\frac{y_2 - y_1}{x_2 - x_1}$

1. Find the slope between (-2,9) and (3 , -1)

2. Find the slope between (3,1) and (-1, 0)

3. Find the slope between (-2,2) and (7,2)

4. Find the slope of a line passing through (5,-3) and (5 , 2)

Sep 26-8:19 AM

D. parallel lines: slopes are equal
E. perpendicular lines: the product of the slopes are -1. slopes are opposite reciprocals

1. Find the slope of a line parallel to y = 3x + 13

2. Find the slope of a line perpendicular to 2x + 3y = 6

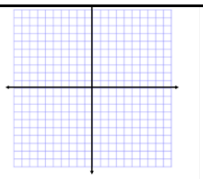
3. Find the slope of a line parallel to y=4

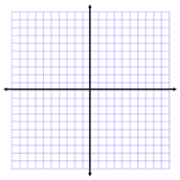
4. Find the slope of a line perpendicular to x = 4

Jul 19-1:43 PM

Sep 26-8:25 AM

1. Graph a line with slope = -2 (3, -6)



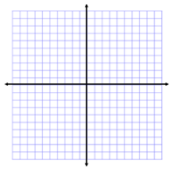


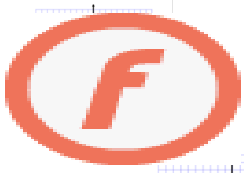
2. Graph a line passing through (2 , 4) parallel to AB if A(4, -9) and B(-1, 1)

Oct 8-7:44 AM

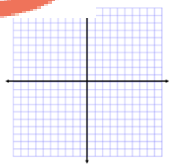
Graph the line

2. Perpendicular to $y = \frac{3}{4}x + 7$ through (-2, 1)





3. parallel to y=5 passing through (-1,4)



Oct 8-7:45 AM

3.4 Proving Parallel Lines

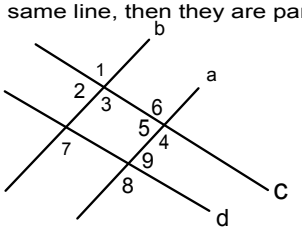
A. If corresponding angles are congruent, then the lines are parallel.

B. If alternate interior angles are congruent, then lines are parallel.

C. If alternate exterior angles are congruent, then lines are parallel.

D. If consecutive interior angles are supplementary, then the lines are parallel.

F. If two lines are perpendicular to the same line, then they are parallel.



Which lines are parallel and why?

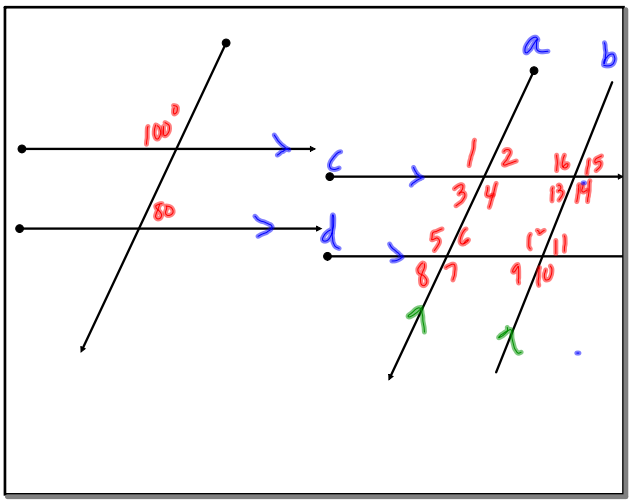
1. <2 = < 5

2. < 1 = < 7

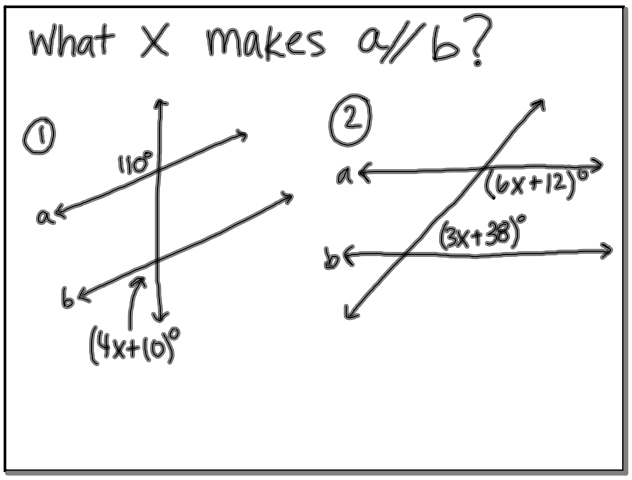
3. < 3 + <5 = 180

4. < 5 = < 9

Sep 30-8:40 AM



Sep 29-8:22 AM



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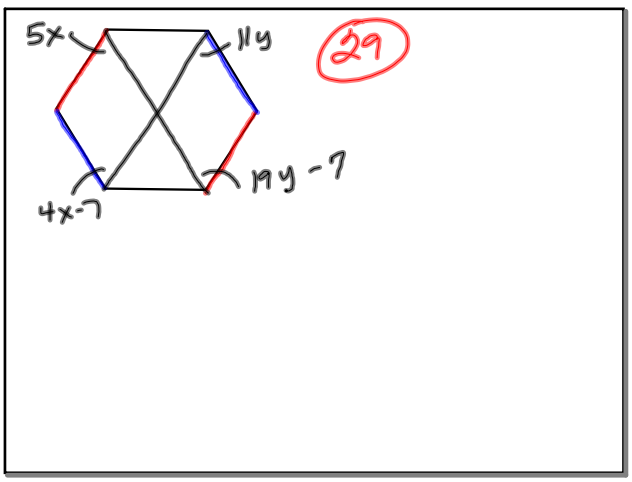

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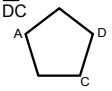
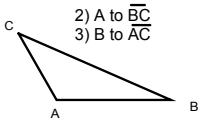
Draw a segment that represents the distance from...

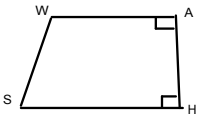
1) A to $\overline{DC}$



2) A to $\overline{BC}$
3) B to $\overline{AC}$



4) W to $\overline{SH}$
5) S to $\overline{AH}$



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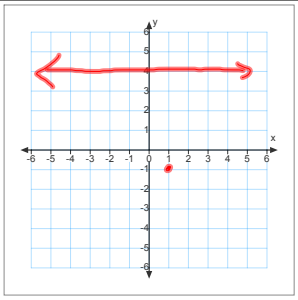
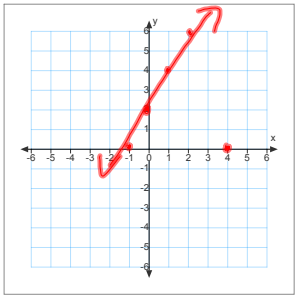


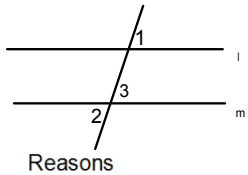
Sep 30-8:11 AM



Sep 30-9:37 AM

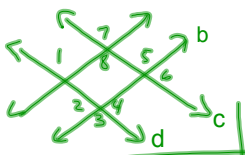
Given: <1≅<2

Prove: l //m



Statements	Reasons

Mar 3-12:08 PM



Given: a//b, c//d

Prove: ∠1≅∠5

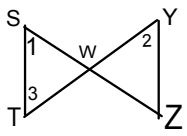
a

Sep 30-8:14 AM

Given: <2≅<1

< 1≅<3

Prove: $\overline{ST}$ // $\overline{YZ}$



Statements	Reasons

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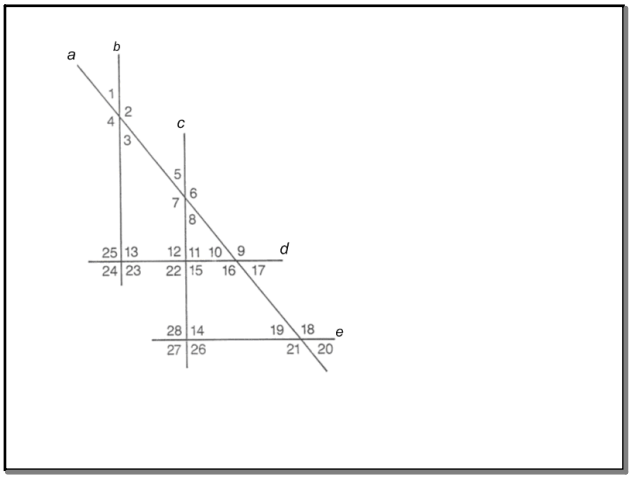
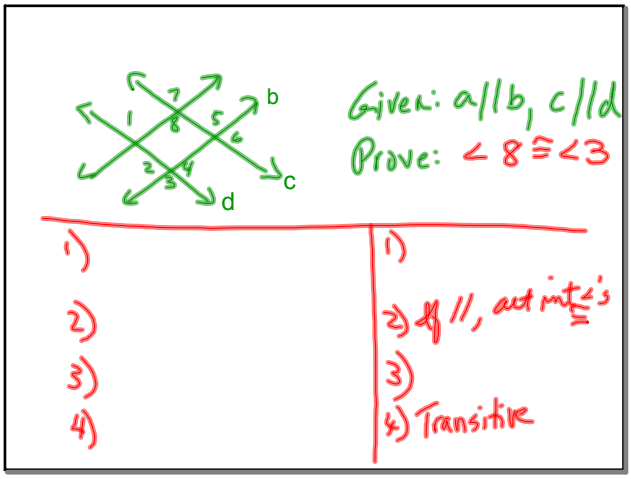


Oct 10-8:14 AM



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